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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/944,337	08/31/2001	Helmut Hosle	4100-269	1871

7590

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EXAMINER

ABDELNOUR, DENNIS J

ART UNIT

PAPER NUMBER

3681

DATE MAILED: 07/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/944,337

Applicant(s)

HOSLE, HELMUT

Examiner

Dennis J. Abdelnour

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 May 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 16-19 is/are rejected.
- 7) ☒ Claim(s) 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \*   c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

The following office action is in response to amendment B received May 5, 2003, Paper No. 11. Claims 1-19 are pending.

#### *Claim Rejections - 35 USC § 103*

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1-2, 4, 7, 10, 14, and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (JP 07229471 A) in view of Hehenberger (WO 96/11338).

Takahashi has been described in section 4 of the final rejection dated January 27, 2003.

Takahashi does not disclose a rotor being supported in a housing by an outer bearing toward a rotor ahead and an inner bearing away from a rotor head, with the rotor having a larger diameter at the outer bearing than at the inner bearing.

Hehenberger shows a transmission for a windmill in Figure 3 having an outer bearing 23 near a rotor head 27, and an inner bearing 44 away from the rotor head. The rotor 20 has a larger diameter at the outer bearing 23 than at the inner bearing 44.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Takahashi to include an outer bearing near a rotor head having a larger diameter than an inner bearing away from the rotor head as taught by Hehenberger in order to improve stability of the rotor.

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3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Hehenberger as applied to claims 1-2, 4, 7, 10, 14, and 16-19 above, and further in view of Arvidsson (USPN 6,082,901).

Takahashi in view of Hehenberger has been described above in section 2. Takahashi further shows a pair of sliding contact bearings supporting the rotor in the housing, as well as an embodiment where bearings 18 are shown as absorbing axial forces in Figure 2. Takahashi does not disclose an oil pump for raising the bearings hydrostatically or means for controlling the oil pump.

Arvidsson discloses hydraulic axial bearings for a radial mounted axle which are controlled by an oil pump.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Takahashi in view of Hehenberger to include hydraulic axial bearings as taught by Arvidsson in order to decrease the amount of friction in the bearings.

4. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Hehenberger as applied to claims 1-2, 4, 7, 10, 14, and 16-19 above, and further in view of Huebl et al. (USPN 4,383,520).

Takahashi in view of Hehenberger has been described above in section 2. Takahashi does not show the annular gear fixed to the annular gear carrier by a toothed coupling or by means of a press fit.

Huebl et al. shows shaft 70 mounted with spur gear 33 by a shrink fit, and that "it is also possible to design the pinion and the shaft in one piece and to connect them through a radially

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toothed coupling" (col.4, lines 47-50). Both means of attachment between gears and carriers or shafts supporting the gears are well known in the art.

It would have been obvious to one having ordinary skill in the art to modify Takahashi in view of Hehenberger by connecting the gear carrier and the gear by means of a toothed coupling or a press fit as taught by Huebl et al. in order to simplify assembly.

5. Claims 8-9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Hehenberger as applied to claims 1-2, 4, 7, 10, 14, and 16-19 above, and further in view of Kekki et al. (USPN 6,176,804).

Takahashi in view of Hehenberger has been described above in section 2. Takahashi does not disclose a bearing cover secured to the housing, with bearings for the spur gear stage supported in the bearing cover, nor does Takahashi disclose gears having helical teeth, or a flanged housing supporting the spur gear stage with two output shafts.

Kekki et al. shows in figure 6B bearing cover 60 connected to the housing and supporting bearings for the spur gear stage within. Also shown in Figure 9A is an illustration of the helical toothing 16' connected with the sun gear 16, with corresponding helical tooth forms provided on the planet gears and on the ring gear.

Additional backup flange housing 40 is provided (Figure 6A) along with first and second output shafts 23 and 26.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Takahashi in view of Hehenberger to include a bearing cover attached to the

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housing including bearings for the spur gear stage as taught by Kekki et al. in order to contain the flow of fluid within the transmission.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Takahashi in view of Hehenberger to utilize gears having helical teeth as taught by Kekki et al. in order to transmit an axial force.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Takahashi in view of Hehenberger to include a second output shaft and a flanged housing containing the spur gear stage as taught by Kekki et al. in order to simplify assembly and to power an additional generator.

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Hehenberger as applied to claims 1-2, 4, 7, 10, 14, and 16-19 above, and further in view of Weil (USPN 5,529,566).

Takahashi in view of Hehenberger has been described above in section 2. Takahashi does not disclose a sensor recording the axial force of the sun gear shaft.

Weil discloses a sensor means for measuring an axial force imparted on a scroll, whereby utilizing one or several axial bearings having axial force sensors. See col. 6, lines 1-4.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Takahashi in view of Hehenberger by utilizing the axial bearings having axial force sensors as taught by Weil in order to determine axial forces and determine if such forces become problematic.

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7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Hehenberger as applied to claims 1-2, 4, 7, 10, 14, and 16-19 above, and further in view of Lev et al. (USPN 6,170,156).

Takahashi in view of Hehenberger has been described above in section 2. Takahashi does not disclose surface-hardened annular gear teeth.

Lev et al. discloses a gear tooth shaping process in planetary gear assemblies utilizing surface-hardened teeth.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Takahashi in view of Hehenberger by using surface-hardened gear teeth as taught by Lev et al. in order to improve the transmission's fatigue life.

#### ***Allowable Subject Matter***

8. Claim 15 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. USPN 6,420,808 to Hosle; USPN 6,459,165 to Schoo; USPN 4,619,158 to Nelson; USPN 1,432,090 to Simpson; and DE 42 24 228 A1 to Villgren et al.

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis J. Abdelnour whose telephone number is (703) 305-5309.

The examiner can normally be reached on Monday-Friday, 8:00-5:30, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on (703) 308-0830. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3597 for regular communications and (703) 305-3597 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2168.

dja

  
July 13, 2003

 7/14/03

CHARLES A. MARMOR  
SUPERVISORY PATENT EXAMINER  
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